

**WHAT IS CLAIMED IS:**

1. An isolated polynucleotide comprising a member selected from the group consisting of:

(a) a polynucleotide having at least a 70% identity to a polynucleotide encoding an enzyme comprising amino acid sequences set forth in SEQ ID NO:4;

(b) a polynucleotide which is complementary to the polynucleotide of (a); and

(c) a polynucleotide comprising at least 15 bases of the polynucleotide of (a) or (b).

2. The polynucleotide of Claim 1 wherein the polynucleotide is DNA.

3. The polynucleotide of Claim 1 wherein the polynucleotide is RNA.

4. The polynucleotide of Claim 2 which encodes an enzyme comprising amino acids 1 to 364 of SEQ ID NO:4.

5. An isolated polynucleotide comprising a member selected from the group consisting of:

(a) a polynucleotide having at least a 70% identity to a polynucleotide encoding an enzyme encoded by the DNA contained in ATCC Deposit No. \_\_\_\_\_, wherein said enzyme is AEDM12RA- $\alpha$ -gal-18GC;

(b) a polynucleotide complementary to the polynucleotide of (a); and

(c) a polynucleotide comprising at least 15 bases of the polynucleotide of (a) and (b).

6. A vector comprising the DNA of Claim 2.

7. A host cell comprising the vector of Claim 6.

8. A process for producing a polypeptide comprising <sup>7</sup> expressing from the host cell of Claim <sup>1</sup> a polypeptide encoded by said DNA.

*a* *add D3*  
*a* 9. A process for producing a cell comprising <sup>6</sup> transforming or transfecting the cell with the vector of Claim <sup>1</sup> such that the cell expresses the polypeptide encoded by the DNA contained in the vector.

10. An enzyme comprising a member selected from the group consisting of:

- (a) an enzyme comprising an amino acid sequence which is at least 70% identical to the amino acid sequence set forth in SEQ ID NO:4; and
- (b) an enzyme which comprises at least 30 amino acid residues to the enzyme of (a).

11. An enzyme comprising a member selected from the group consisting of:

- (a) an enzyme comprising an amino acid sequence as set forth in in SEQ ID NO:4; and
- (b) an enzyme which comprises at least 30 amino acid residues to the enzyme of (a).

12. A method for hydrolyzing  $\alpha$ -galactose bonds comprising:  
administering an effective amount of an enzyme having the amino acid sequence set forth in SEQ ID NO:4.

*add a2*

*add B5*